

VINNAPAS[®] eco EN 428 (XX MB)

VINNAPAS[®]

Polymer Dispersions

VINNAPAS[®] eco EN 428 (XX MB) is a self-crosslinking, plasticizer-free, aqueous polymer dispersion produced from the monomers vinyl acetate and ethylene.

VINNAPAS[®] eco is a fossil resources saving product, where a specific share of the fossil-based raw materials required for manufacturing of this product can be replaced by certified sustainable renewable feedstock. The substitution is based on the REDcert² mass balance approach, audited by an independent third party.

The exact amount of fossil raw material replaced depends on the selected product version and is specified in the corresponding certificate. Please contact your WACKER representative or visit the product page on the WACKER website www.wacker.com for additional information regarding WACKER's products or sustainability efforts, including mass balance.



Properties

- VINNAPAS[®] eco EN 428 (XX MB) offers a unique balance of soft handle, high wet strength and broad formulation flexibility.
- Due to the particular soft character of the film it forms VINNAPAS[®] eco EN 428 (XX MB) is ideally suited as a binder for personal hygiene nonwovens and as a coating and finishing agent for woven and knitted goods.

Technical data

Specification

Property	Condition	Value	Method
Solids content	-	51 - 53 %	DIN EN ISO 3251
Viscosity, dynamic	23 °C	50 - 350 mPa·s	DIN EN ISO 2555
pH	-	4 - 6	DIN/ISO 976

General Characteristics

Property	Condition	Value	Method
Density	23 °C	approx. 1.04 g/cm ³	DIN EN ISO 2811-3
Minimum film forming temperature	-	approx. 0 °C	DIN ISO 2115
Frost resistance	-	protect against freezing	-
Protective colloid / emulsifier system	-	nonionic emulsifiers	-
Appearance of the dispersion film	-	clear	-
Surface of the dispersion film	-	slightly sticky	-
Elongation at break ⁽¹⁾	-	approx. 1500 %	DIN EN ISO 527, part 1 - 3
Glass transition temperature	-	approx. -15 °C	-
Predominant particle size	-	0.2 - 0.3 µm	specific method
Tensile strength ⁽²⁾	-	approx. 4.5 N/mm ²	DIN EN ISO 527, part 1 - 3

¹Crosslinked

²Crosslinked

These figures are only intended as a guide and should not be used in preparing specifications.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

Application details

Processing

Polymer Dispersions

VINNAPAS® eco EN 428 (XX MB) is miscible with most anionic and/or nonionic aqueous polymer dispersions especially with the selfcrosslinking VINNAPAS® AN 214. This imparts a harder handle and increases the film strength. However, the compatibility of the mixture should be tested by carrying out storage tests.

VINNAPAS® eco EN 428 (XX MB) can be used in permanently water-repellent coatings based on Wacker® Si Finish CT 19E to impart handle to textile materials used for rain and sportswear, tents and camping goods etc. It is usually also possible to combine VINNAPAS® eco EN 428 (XX MB) with curable or fibre crosslinking synthetic resin precondensates and/or other reactive resins.

The pH value of VINNAPAS® eco EN 428 (XX MB) is usually sufficient for optimum crosslinking, but in exceptional cases the addition of 0.1–1.0 % diammonium phosphate can accelerate the process. VINNAPAS® eco EN 428 (XX MB) crosslinks at temperatures above 130°C, but 150 °C is necessary for optimum durability.

Fillers and Pigments

If, for coating applications, VINNAPAS® eco EN 428 (XX MB) is to be pigmented, only pH-value neutral fillers and pigments should be used since they would otherwise interfere with the crosslinking process which takes place in the acid pH range.

Defoaming Agents

Suitable defoaming agents are, for example, 1) SILFOAM® SE1662 or 2) FOAMASTER® WO 2310 and 3) AGITAN® 352. Their efficacy and compatibility in the formulation chosen should always be checked.

- 1) SILFOAM® is a trademark of Wacker Chemie AG
- 2) FOAMASTER® is a trademark of BASF SE
- 3) AGITAN® is a trademark of Münzing Chemie GmbH

Thickening Agents

Thickeners should be pH-value neutral products e.g. cellulose derivatives, polyvinyl alcohol or polyurethane based. VINNAPAS® eco EN 428 (XX MB) crosslinks under acidic conditions so that if an alkali thickenable acrylic acid copolymer is to be employed, the pH-value should be adjusted with ammonia. Their compatibility and efficacy need to be checked.

Additional information

If the product is used in applications other than those mentioned, the choice, processing and use of the product is the sole responsibility of the purchaser. All legal and other regulations must be complied with.

For questions concerning food contact status according to the chapter 21 CFR (US FDA) and German BfR, please feel free to contact us.

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Packaging and storage

Storage

When the dispersion is stored in tanks, proper storage conditions must be maintained. VINNAPAS® eco EN 428 (XX MB) has a shelf life of 6 months starting from the date of receipt if stored in the original, unopened containers at temperatures between 5 and 30 °C. Iron or galvanized-iron equipment and containers are not recommended because the dispersion is slightly acidic. Corrosion may result in discoloration of the dispersion or its blends when further processed. Therefore the use of containers and equipment made of ceramics, rubberized or enameled materials, appropriately finished stainless steel, or plastic (e.g. rigid PVC, polyethylene or polyester resin) is recommended. As polymer dispersions may tend to superficial film formation, skins or lumps may form during storage or transportation. Filtration is therefore recommended prior to utilization of the product.

Preservation for Transport, Storage and further Processing

The product is adequately preserved during transportation and storage if kept in the original, unopened containers. However, if it is transferred to storage tanks, the dispersion should be protected against microbial attack by adding a suitable preservative package.

Measures should also be taken to ensure cleanliness of the tanks and pipes. In unstirred tanks, a layer of preservative-containing water should be sprayed onto the surface of the dispersion to prevent the formation of unwanted skin and possible attack by microorganisms. The thickness of this water layer should be < 5 mm for low viscosity dispersions and up to 10–20 mm for high viscosity products. Proper procedures – periodic tank cleaning and sanitization – must be set up in order to prevent microbial attack. Contact your biocide representative/supplier for further plant hygiene recommendations. Measures should be taken to ensure that only clean air enters the tank when the dispersion is removed.

Finished products manufactured from polymer dispersions usually also require preservation. The type and scope of preservation will depend on the raw materials used and the anticipated sources of contamination. The compatibility with other components and the efficacy of the preservative should always be tested in the respective formulation. Preservative manufacturers will be able to advise you about the type and dosage of preservative required.

Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. These are available on request from WACKER sales offices or may be downloaded from the WACKER Web site www.wacker.com/vinnapas.

QR Code VINNAPAS® eco EN 428 (XX MB)



For technical, quality or product safety questions, please contact:

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The data presented in this medium are in accordance with the present state of our knowledge but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this medium should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The information provided by us does not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the product for a particular purpose.